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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,609	10/17/2003	Takeshi Yamashita	244151US90	8948

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

ALAM, FAYYAZ

ART UNIT	PAPER NUMBER
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2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/686,609

Applicant(s)

YAMASHITA ET AL.

Examiner

Fayyaz Alam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/25/04 & 1/9/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement submitted on 3/25/2004 & 1/9/2004 been considered by the Examiner and made of record in the application file.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 - 3, 5, 6, and 10 - 14 are rejected under 35 U.S.C. 102(b) as being anticipated by **Wong et al. (WO 99/03290)**.

Consider **claim 1**, Wong discloses a mobile unit (read as mobile station) comprising: power meter (206) (read as measuring means) to measure the received power level and signal quality (read as received level) of each neighboring cell and serving cell (see pg. 7, lines 21 - 22; pg. 8, lines 13 - 14; pg. 13, lines 18 - 19); determining means for determining cell types of the current and neighboring cells, since four types cell reselection situations are disclosed by the invention and they are, macrocell to macrocell, macrocell to microcell, microcell to macrocell, and microcell to

microcell, there must be a determining means in order to be able to differentiate among the cell types (see pg. 9, lines 1 - 5); and decision is based upon the signal quality (read as selecting means for selecting a cell as a reselection target, based on the received levels measured by the measuring means) and microcells hold preferred neighbor status with respect to macrocells (read as based on cell types determined by the determining means) (see pg. 9, lines 6 - 10; pg. 13, lines 23 - 24).

Consider **claim 2** as applied to claim 1, Wong discloses upon reselection to a macrocell (read as serving cell) the private reselection algorithm again allows the public macrocell algorithm (read as selecting means changes a cell reselection condition or priority for selection between cell types according to the cell type of the serving cell determined by the determination unit) to run simultaneously to permit reselection to another macrocell, if necessary (see pg. 13, lines 26 - 28).

Consider **claim 3** as applied to claim 2, Wong discloses when the current cell (read as serving cell) is microcell, reselection to a macrocell (neighboring cell) occurs according to the private reselection algorithm (read as selecting means changes the cell reselection condition, according to cell type of the neighboring cell determined by the determining means) (see pg. 10, lines 22 - 24).

Consider **claim 5**, Wong discloses a mobile communication system comprising a mobile unit (read as mobile station) comprising: power meter (206) (read as measuring means) to measure the received power level and signal quality (read as received level) of each neighboring cell and serving cell (see pg. 7, lines 21 - 22; pg. 8, lines 13 - 14; pg. 13, lines 18 - 19); determining means for determining cell types of the current and

neighboring cells, since four types cell reselection situations are disclosed by the invention and they are, macrocell to macrocell, macrocell to microcell, microcell to macrocell, and microcell to microcell, there must be a determining means in order to be able to differentiate among the cell types (see pg. 9, lines 1 - 5); decision is based upon the signal quality (read as selecting means for selecting a cell as a reselection target, based on the received levels measured by the measuring means) and microcells hold preferred neighbor status with respect to macrocells (read as based on cell types determined by the determining means); and a base station for notifying the mobile unit (read as mobile station) of a neighbor list which includes information about the surrounding macrocells and microcells, in addition, it is disclosed that this invention is a modification of the roaming algorithm found in many popular cell phones, therefore, the base station would also notify the mobile unit of its own cell (read as a base station for notifying the mobile station of information enabling identification of a cell type of its own cell or identification of cell types of its own cell and each neighboring cell thereto) (see pg. 9, lines 6 - 10; pg. 13, lines 23 - 24; pg. 8, lines 14 - 18; pg. 8, line 27 - pg. 9, line 5; fig. 1A).

Consider **claim 6**, Wong discloses a cell selection method comprising: a mobile unit (read as mobile station) comprising a power meter (206) (read as measuring means) to measure the received power level and signal quality (read as received level) of each neighboring cell and serving cell (read as a measuring step wherein measuring means of a mobile station measures received levels of a serving cell and each neighboring cell thereto) (see pg. 7, lines 21 - 22; pg. 8, lines 13 - 14; pg. 13, lines 18 -

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19); a determining step wherein determining means for determining cell types of the current and neighboring cells, since four types cell reselection situations are disclosed by the invention and they are, macrocell to macrocell, macrocell to microcell, microcell to macrocell, and microcell to microcell, there must be a determining means in order to be able to differentiate among the cell types to perform cell reselection (see pg. 9, lines 1 - 5); and decision is based upon the signal quality (read as a selecting step wherein selecting means for selecting a cell as a reselection target, based on the received levels measured by the measuring means) and microcells hold preferred neighbor status with respect to macrocells (read as based on cell types determined by the determining means) (see pg. 9, lines 6 - 10; pg. 13, lines 23 - 24).

Consider **claim 10** as applied to claim 1, Wong discloses that the mobile unit (read as mobile station) must measure the signal quality (read as received level) and is programmed with a neighbor list of the cells in the neighborhood (read as choosing means for choosing neighboring cells for each of which a received level is measured; see pg. 8, lines 13 - 16), wherein the phone (read as mobile station) continually monitors the signal quality of the neighboring cells (read as measuring means measures received levels of neighboring cells after chosen by the choosing means) (see pg. 8, lines 24 - 27).

Consider **claim 11**, Wong discloses a mobile unit (read as mobile station) comprising: storing means since the mobile unit is programmed with a neighbor list of cells and stores information about the macrocells and microcells (read as storing information about a radio channel); the mobile unit (read as mobile station) must

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measure the signal quality (read as received level) and is programmed with a neighbor list of the cells in the neighborhood (read as choosing means for choosing neighboring cells for each of which a received level is measured; see pg. 8, lines 13 - 16), wherein the phone (read as mobile station) continually monitors the signal quality (read as received level) of the neighboring cells (read as measuring means measures received levels of neighboring cells after chosen by the choosing means, out of the neighboring cells to the serving cells) (see pg. 8, lines 24 - 27); determining means for determining cell types of the current and chosen neighboring cells, since four types cell reselection situations are disclosed by the invention and they are, macrocell to macrocell, macrocell to microcell, microcell to macrocell, and microcell to microcell, there must be a determining means in order to be able to differentiate among the cell types (see pg. 9, lines 1 - 5); and decision is based upon the signal quality (read as selecting means for selecting a cell as a reselection target, based on the received levels measured by the measuring means) and microcells hold preferred neighbor status with respect to macrocells (read as based on cell types determined by the determining means) (see pg. 9, lines 6 - 10; pg. 13, lines 23 - 24).

Consider **claim 12** as applied to claim 11, Wong discloses a cell reselection condition (read as at least one of) where the signal strength (read as received level) of the current microcell (serving cell) falls below the microcell SS_SUFF threshold (read as predetermined first threshold) and the signal strength (read as received level) of the target macrocell (read as neighboring cell) exceeds the signal strength of the current microcell (read as serving cell) by a value RESEL_OFFSET (read as predetermined

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received level) and the signal strength (read as received level) of the target macrocell (read as neighboring cell) exceeds the threshold SS_SUFF (read as highest received level out of neighboring cells) (see pg. 13, lines 15 - 20).

Consider **claim 13**, Wong discloses a cell selection method comprising: a mobile unit (read as mobile station) comprising a storing step which is carried out by the storing means since the mobile unit is programmed with a neighbor list of cells and stores information about the macrocells and microcells (read as storing step wherein storing information about a radio channel); the mobile unit (read as mobile station) must measure the signal quality (read as received level) and is programmed with a neighbor list of the cells in the neighborhood (read as a choosing step wherein choosing means for choosing neighboring cells for each of which a received level is measured; see pg. 8, lines 13 - 16); wherein the phone (read as mobile station) continually monitors the signal quality (read as received level) of the neighboring cells (read as measuring step wherein measuring means measures received levels of neighboring cells after chosen by the choosing means, out of the neighboring cells to the serving cells) (see pg. 8, lines 24 - 27); determining step wherein determining means of the mobile unit determines cell types of the current and chosen neighboring cells, since four types cell reselection situations are disclosed by the invention and they are, macrocell to macrocell, macrocell to microcell, microcell to macrocell, and microcell to microcell, there must be a determining means in order to be able to differentiate among the cell types (see pg. 9, lines 1 - 5); and decision is based upon the signal quality (read as selecting step wherein selecting means for selecting a cell as a reselection target, based on the

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received levels measured by the measuring means) and microcells hold preferred neighbor status with respect to macrocells (read as based on cell types determined by the determining means) (see pg. 9, lines 6 - 10; pg. 13, lines 23 - 24).

Consider **claim 14** as applied to claim 13, Wong discloses a cell selection method with a cell reselection condition (read as at least one of), where, the signal strength (read as received level) of the current microcell (serving cell) falls below the microcell SS_SUFF threshold (read as predetermined first threshold) and the signal strength (read as received level) of the target macrocell (read as neighboring cell) exceeds the signal strength of the current microcell (read as serving cell) by a value RESEL_OFFSET (read as predetermined received level) and the signal strength (read as received level) of the target macrocell (read as neighboring cell) exceeds the threshold SS_SUFF (read as highest received level out of neighboring cells) (see pg. 13, lines 15 - 20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4, and 7 - 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Wong (WO 99/03290)** in view of **Korpela et al. (U.S. Application # 2001/0031638)**.

Consider **claim 4** as applied to claim 1, Wong discloses the mobile unit (read as mobile station) is programmed (read as storing means) with a neighbor list of cells in the neighborhood of private, corporate site, where said list comprises information about the macrocell and the microcell system (read a storing means for storing the cell types in relation with cell classes) (see pg. 8, lines 14 - 18).

However, Wong fails to disclose counting means for counting the number of reselections between cells of different cell classes; changing means for changing the relation between the cell types and the cell classes in the storing means to another

when the number of reselections counted by the counting means exceeds a predetermined value.

In the related field of endeavor, Korpela et al. disclose if the UE (10) (read as mobile station) has made cell reselection to N (number of reselections and predetermined value) different cells (read as counting means for counting the number of reselections between cells of different cell classes) (see [0052]); UE (10) (read as mobile station) initiates a detection/measurement procedure for larger neighbor cells (read as changing means), i.e., cells having a larger layer number than the current layer number of the serving cell (read as changing means for changing the relation between the cell types and the cell classes in the storing means to another when the number of reselections counted by the counting means exceeds a predetermined value) (see [0052]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Wong with the teachings of Korpela et al. in order to maintain continuity and optimum communication between a mobile unit and a base station.

Consider **claim 7** as applied to claim 6, Wong fails to disclose counting step wherein counting means counts the number of reselections between cells of different cell classes; and a changing step wherein changing means changes a relation between the cell types and the cell classes in storing means to another when the number of reselections counted by the counting means exceeds a predetermined value.

In the related field of endeavor, Korpela et al. disclose if the UE (10) (read as mobile station) has made cell reselection to N (number of reselections and predetermined value) different cells (read as counting step wherein counting means for counts the number of reselections between cells of different cell classes) (see [0052]); UE (10) (read as mobile station) initiates a detection/measurement procedure for larger neighbor cells (read as changing step), i.e., cells having a larger layer number than the current layer number of the serving cell (read as a changing step wherein changing means changes a relation between the cell types and the cell classes in storing means to another when the number of reselections counted by the counting means exceeds a predetermined value) (see [0052]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Wong with the teachings of Korpela et al. in order to maintain continuity and optimum communication between a mobile unit and a base station.

Consider **claim 8** as applied to claim 7, Wong fails to disclose in the changing step the changing means changes the relation between the cell types and the cell classes in the storing means to another when the number of reselections exceeds the predetermined value within a predetermined time from a point of a start of counting the number of reselections.

In the related field of endeavor, Korpela et al. disclose that it is desirable to move UE's (10) (read as mobile stations) to smaller cells, i.e., from lower layers to higher layers, or from macro to micro cells (read as initial relation between cell types and cell

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classes; see [0042]) and if the UE (10) (read as mobile station) has made reselection to N different cell within time Tmax (read as when the number of reselections exceeds the predetermined value within a predetermined time from a point of start of counting within a predetermined time), the UE (10) (read as mobile station) initiates (read as changing step) a detection /measurement procedure for larger neighbor cells (read as changing means changes the relation between the cell types and cell classes in the storing means) (see [0052]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Wong with the teachings of Korpela et al. in order to maintain continuity and optimum communication between a mobile unit and a base station.

Consider **claim 9** as applied to claim 7, Wong fails to disclose the changing step, on the occasion of changing the relation between the cell types and the cell classes, the changing means brings the relation back to that before the changing after a lapse of a predetermined time from a point of the changing.

In the related field of endeavor, Korpela et al. disclose the UE (10) (read as mobile station) does not attempt to reselect to a smaller cell within time X (read as lapse of a predetermined time from a point of the changing) and the time X can be pre-specified (read as the changing step, on the occasion of changing the relation between the cell types and the cell classes, the changing means brings the relation back to that before the changing after a lapse of a predetermined time from a point of the changing) (see [0052]).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Wong with the teachings of Korpela et al. in order to maintain continuity and optimum communication between a mobile unit and a base station.

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1102. The Examiner can normally be reached on Monday-Friday from 9:30am to 7:00pm.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Fayyaz Alam

December 13, 2006

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Edan Orgad 12/19/06